



DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R3–ES–2012–0087; FXES11130900000C3-123-FF09E30000]

[RIN 1018–AY45]

Endangered and Threatened Wildlife and Plants; Establishment of a Nonessential Experimental Population of Topeka Shiner (*Notropis topeka*) in Northern Missouri

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), jointly with the Missouri Department of Conservation and the Nature Conservancy, will reestablish the Topeka shiner (*Notropis topeka*), a federally endangered fish. We will reestablish the Topeka shiner under section 10(j) of the Endangered Species Act of 1973, as amended (Act), and classify the reestablished population as a nonessential experimental population (NEP) within portions of the species' historical range in Adair, Gentry, Harrison, Putnam,

Sullivan, and Worth Counties, Missouri. This final rule provides a plan for establishing the NEP and provides for allowable legal incidental taking of the Topeka shiner within the defined NEP area. The best available data indicate that reintroduction of Topeka shiner to portions of the species' historical range in Adair, Gentry, Harrison, Putnam, Sullivan, and Worth Counties, Missouri, is biologically feasible and will promote the conservation of the species.

DATES: This rule becomes effective [INSERT DATE 30 DAYS AFTER FEDERAL REGISTER PUBLICATION].

ADDRESSES: This final rule, along with the public comments, and the Environmental Action Statement for Categorical Exclusion are available on the Internet at *<http://www.regulations.gov>*, Docket No. FWS-R3-ES-2012-0087. Comments and materials received, as well as supporting documentation used in the preparation of this rule, will be available for public inspection, by appointment, during normal business hours at: U.S. Fish and Wildlife Service, Ecological Services Field Office, 101 Park DeVille Dr.; Suite A, Columbia, MO 65203; telephone: 573-234-2132; facsimile: 573-234-2181. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Services (FIRS) at 800-877-8339.

FOR FURTHER INFORMATION CONTACT: Amy Salveter, Field Supervisor, telephone: 573-234-2132; facsimile: 573-234-2181. Direct all questions or requests for

additional information to: TOPEKA SHINER QUESTIONS, U.S. Fish and Wildlife Service, Ecological Services Field Office, 101 Park DeVille Dr.; Suite A, Columbia, MO 65203. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Services (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Background

Statutory and Regulatory Framework

The Topeka shiner was listed as endangered throughout its range on December 15, 1998 (63 FR 69008), and critical habitat was designated in Iowa, Minnesota, and Nebraska on July 27, 2004 (69 FR 44736), under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). The Act provides that species listed as endangered are afforded protection primarily through the prohibitions of section 9 and the requirements of section 7. Section 9 of the Act, among other things, prohibits the take of endangered wildlife. “Take” is defined by the Act as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Section 7 of the Act outlines the procedures for Federal interagency cooperation to conserve federally listed species and protect designated critical habitat. It mandates that all Federal agencies use their existing authorities to further the purposes of the Act by carrying out programs for the conservation of listed species. It also states that Federal agencies must, in consultation with the Service, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Section 7 of the Act

does not affect activities undertaken on private land unless they are authorized, funded, or carried out by a Federal agency.

The 1982 amendments to the Act (16 U.S.C. 1531 *et seq.*) included the addition of section 10(j) which allows for the designation of reintroduced populations of listed species as “experimental populations.” Under section 10(j) of the Act and our regulations at 50 CFR 17.81, the Service may designate as an experimental population a population of endangered or threatened species that has been or will be released into suitable natural habitat outside the species’ current natural range (but within its probable historical range, absent a finding by the Director of the Service in the extreme case that the primary habitat of the species has been unsuitably and irreversibly altered or destroyed). With the experimental population designation, the relevant population is treated as threatened for purposes of section 9 of the Act, regardless of the species’ designation elsewhere in its range. Threatened designation allows us discretion in devising management programs and special regulations for such a population. Section 4(d) of the Act allows us to adopt whatever regulations are necessary and advisable to provide for the conservation of a threatened species. In these situations, the general regulations that extend most section 9 prohibitions to threatened species do not apply to that species, and the 10(j) rule contains the prohibitions and exemptions necessary and appropriate to conserve that species.

Before authorizing the release as an experimental population of any population (including eggs, propagules, or individuals) of an endangered or threatened species, and before authorizing any necessary transportation to conduct the release, the Service must find, by regulation, that such release will further the conservation of the species. In

making such a finding, the Service uses the best scientific and commercial data available to consider: (1) Any possible adverse effects on extant populations of a species as a result of removal of individuals, eggs, or propagules for introduction elsewhere; (2) the likelihood that any such experimental population will become established and survive in the foreseeable future; (3) the relative effects that establishment of an experimental population will have on the recovery of the species; and (4) the extent to which the introduced population may be affected by existing or anticipated Federal or State actions or private activities within or adjacent to the experimental population area.

Furthermore, as set forth in 50 CFR 17.81(c), all regulations designating experimental populations under section 10(j) must provide: (1) Appropriate means to identify the experimental population, including, but not limited to, its actual or proposed location, actual or anticipated migration, number of specimens released or to be released, and other criteria appropriate to identify the experimental population(s); (2) a finding, based solely on the best scientific and commercial data available, and the supporting factual basis, on whether the experimental population is, or is not, essential to the continued existence of the species in the wild; (3) management restrictions, protective measures, or other special management concerns of that population, which may include but are not limited to, measures to isolate and/or contain the experimental population designated in the regulation from natural populations; and (4) a process for periodic review and evaluation of the success or failure of the release and the effect of the release on the conservation and recovery of the species.

Under 50 CFR 17.81(d), the Service must consult with appropriate State fish and wildlife agencies, local governmental entities, affected Federal agencies, and affected private landowners in developing and implementing experimental population rules. To the maximum extent practicable, section 10(j) rules represent an agreement between the Service, the affected State and Federal agencies, and persons holding any interest in land that may be affected by the establishment of an experimental population.

Based on the best scientific and commercial data available, we must determine whether the experimental population is *essential* or *nonessential* to the continued existence of the species. The regulations (50 CFR 17.80(b)) state that an experimental population is considered essential if its loss would be likely to appreciably reduce the likelihood of survival of that species in the wild. All other populations are considered nonessential.

We have determined that this experimental population will not be essential to the continued existence of the species in the wild, because its loss will not be likely to appreciably reduce the likelihood of survival of Topeka shiner in the wild. We made this determination because several populations of Topeka shiner are considered secure and our 5-year review concluded that the species is resilient to many threats identified at the time of listing (Service 2009, pp. 32–33).

In our January 23, 2013, proposed rule (78 FR 4813) to establish this experimental population in three areas in northern Missouri, our preliminary determination that the population was nonessential was based on the existence of secure populations of Topeka shiner in South Dakota and Minnesota, as well as the apparent

resiliency of the species to many threats identified at the time of listing. This led us to conclude that loss of this experimental population would not appreciably reduce the likelihood of survival of the Topeka shiner in the wild. Since publishing that proposed rule, we have undertaken efforts to re-evaluate the status of the species, particularly in the northern part of its range where large complexes of occupied streams exist. We will not conclude that status review before establishing this experimental population, thus we determined it appropriate to re-evaluate the nonessential status of this experimental population without consideration of the existing northern populations.

While the states of South Dakota and Minnesota are estimated to contain 70 percent of the currently known Topeka shiner populations, they represent only approximately 20 percent of the species' known historical range; the remaining estimated 80 percent of the Topeka shiner's historical range occurs in Nebraska, Iowa, Kansas, and Missouri (Service 2010, p. 32). Topeka shiner occupancy varies throughout its historical range, and certain areas experience apparently greater levels of threats (Service 2010, pp. 30–31). While some local population declines since listing have been documented in Kansas and Missouri (Service 2010, pp. 8, 9), Iowa, Minnesota, Nebraska, and South Dakota have documented additional occupied streams since listing (Service 2010, pp. 6–7; Mena 2013, pers. comm.). The majority of occupied watersheds identified at the time of the species' listing continue to be occupied today, despite ongoing actions that may affect the species.

Recovery actions for the Topeka shiner are also being undertaken that lower extinction risk across the range. For example, management plans currently being

implemented by the Missouri Department of Conservation (MDC 1999), the Kansas Department of Wildlife and Parks (Mammoliti 2004), and the Fort Riley Military Installation (U.S. Army 2001) were sufficient to preclude the need to designate critical habitat in Missouri and Kansas (69 FR 44736). Further, two of the plans have been updated (MDC 2010; U.S. Army 2010), and this proposed reintroduction in Missouri represents an important State-Federal partnership intended to fulfill Missouri's Ten Year Strategic Plan for Recovery of the Topeka Shiner in Missouri (MDC 2010). Captive-rearing efforts have been successful, and plans are ongoing to reintroduce Topeka shiners to a Kansas watershed where the species was determined to be recently extirpated (Tabor 2013, pers. comm.). Recovery actions in Iowa to restore off-channel habitats to allow use by Topeka shiners have been effective (Service 2012). Nebraska Game and Parks Commission developed a conservation assessment in 2012 for Topeka shiners to assist in future conservation decisionmaking (Panella 2012). Topeka shiners have been identified in two new occupied streams in Nebraska since listing (Mena 2013, pers. comm.).

With extant populations and ongoing recovery actions within the range of the Topeka shiner, the species is expected to persist in other watersheds within its historical range even if this reintroduction effort is unsuccessful. We do not believe the species will be in greater peril, nor will its likelihood of survival in the wild be appreciably reduced if this experimental population is lost. We also recognize the nonessential designation is important to our recovery partners, and including section 10(j) is consistent with the Congressional intent of the 1982 amendment of the Act. Congress allowed such experimental populations to be identified as either essential or nonessential, but noted the

expectation that most experimental populations would be nonessential (H.R. Conference Report No. 835, *supra* at 34; Service 1984, p. 3388). As noted in our 1984 implementing regulations, an essential experimental population would be a special case, not the general rule (H.R. Conference Report No. 835, *supra* at 34; Service 1984, p. 3388). Therefore, we determine that this experimental population of Topeka shiners in three areas in northern Missouri is nonessential to the continued existence of the species in the wild.

For the purposes of section 7 of the Act, we treat an NEP as a threatened species when the NEP is located within a National Wildlife Refuge or unit of the National Park Service, and Federal agency conservation requirements under section 7(a)(1) and the Federal agency consultation requirements of section 7(a)(2) of the Act apply. Section 7(a)(1) requires all Federal agencies to use their authorities to carry out programs for the conservation of listed species. Section 7(a)(2) requires that Federal agencies, in consultation with the Service, ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of a listed species or adversely modify its critical habitat. When NEPs are located outside a National Wildlife Refuge or National Park Service unit, then, for the purposes of section 7, we treat the population as proposed for listing and only section 7(a)(1) and section 7(a)(4) apply. In these instances, NEPs provide additional flexibility because Federal agencies are not required to consult with us under section 7(a)(2). Section 7(a)(4) requires Federal agencies to confer (rather than consult) with the Service on actions that are likely to jeopardize the continued existence of a species proposed to be listed. The results of a conference are in the form of conservation recommendations that are optional as the agencies carry out, fund, or

authorize activities. Because the NEP is, by definition, not essential to the continued existence of the species, the effects of proposed actions affecting the NEP will generally not rise to the level of jeopardizing the continued existence of the species. As a result, a formal conference will likely never be required for Topeka shiners established within the NEP area. Nonetheless, some agencies voluntarily confer with the Service on actions that may affect a proposed species. Activities that are not carried out, funded, or authorized by Federal agencies are not subject to provisions or requirements in section 7.

On January 23, 2013, the Service published a proposed rule in the **Federal Register** to establish a nonessential experimental population of Topeka shiner within portions of the species' historical range in Adair, Gentry, Harrison, Putnam, Sullivan, and Worth Counties, Missouri (78 FR 4813). We contacted interested parties including Federal and State agencies, local governments, scientific organizations, interest groups, and private landowners through a press release and related fact sheets, and emails. In addition, we notified the public and invited comments through news releases to local media outlets. The public comment period for the proposed rule closed on March 25, 2013.

Section 10(j)(2)(C)(ii) of the Act states that critical habitat shall not be designated for any experimental population that is determined to be nonessential. Accordingly, we cannot designate critical habitat in areas where we establish an NEP.

Biological Information

The Topeka shiner is a small, stout minnow. This shiner species averages 1.5 to 2.5 inches (in.) (3.81–6.35 centimeters (cm)) in length at maturity, with a maximum size

around 3 in. (7.62 cm) (Service 1993, p. 4; Service 1998, p. 69008; Missouri Department of Conservation (MDC) 2010, p. 9). The head is short, and the mouth does not extend beyond the front of the eye. The eye diameter is equal to or slightly longer than the snout. All fins are plain except for the tail fin, which has a chevron-shaped black spot at its base. Dorsal and pelvic fins each contain 8 rays (Service 1993, p. 4; Service 1998, p. 69008; MDC 2010, p. 9). The anal and pectoral fins contain 7 and 13 rays, respectively, and there are 32 to 37 lateral line scales. Dorsally, the body is olive with a distinct dark stripe preceding the dorsal fin. A dusky stripe runs along the entire length of the lateral line (Service 1993, p. 4; Service 1998, p. 69008; MDC 2010, p. 9). The scales above this line are darkly outlined with pigment, appearing cross-hatched. Below the lateral line, the body lacks pigment, appearing silvery-white (Pflieger 1975, pp. 161–162; Pflieger 1997, p. 154; Service 1993, p. 4; Service 1998, p. 69008). Males in breeding condition have orange-red fins and “cheeks,” and the dark lateral stripe diffuses. A distinct chevron-like spot exists at the base of the caudal fin (Pflieger 1975, pp. 161–162; Pflieger 1997, p. 154; Service 1993, p. 4; Service 1998, p. 69008).

Topeka shiners spawn in pool habitats over green sunfish (*Lepomis cyanellus*) and orangespotted sunfish (*L. humilis*) nests from late May through July in Missouri and Kansas (Pflieger 1975, p. 162; Pflieger 1997, p. 154; Kerns 1983, pp. 8–9; Kerns and Bonneau 2002, p. 139; Stark *et al.* 2002, pp. 147–149). Males establish small territories on the periphery of these nests. It is unclear to what extent Topeka shiners are obligated to spawn over sunfish nests, or whether they can successfully utilize other silt-free areas as spawning sites. In a fish hatchery pond environment, Topeka shiner production was

greatly enhanced by the introduction of orangespotted sunfish (Cook 2011, pers. comm.). Topeka shiners feed primarily on insects, such as midges (chironomids), true flies (dipterans), and mayflies (ephemeropterans), but they also are known to feed on zooplankton such as cladocera and copepoda (Kerns and Bonneau 2002, p. 138). Studies from Minnesota found Topeka shiners to be omnivorous, ingesting a significant amount of plant material and detritus along with animal matter (Dahle 2001, pp. 30–32; Hatch and Besaw 2001, pp. 229–230).

Topeka shiners are a schooling species found in mixed-species schools consisting primarily of redbfin (*Lythrurus umbratilis*), sand (*Notropis stramineus*), common (*Luxilus cornutus*), and red shiners (*Cyprinella lutrensis*), and central stonerollers (*Campostoma anomalum*) (Pflieger 1997, p. 155; Kerns and Bonneau 2002, p. 139). Topeka shiners live a maximum of 3 years, although few survive to their third summer (Kerns 1983, p. 16; Dahle 2001, pp. 30–31; Kerns and Bonneau 2002, p. 138). Topeka shiner populations appear to be more tolerant than other native fish species to drought conditions in Kansas (Minckley and Cross 1959, p. 215; Barber 1986, pp. 70–71; Kerns and Bonneau 2002, p. 138). The Topeka shiner is tolerant of high water temperatures and low dissolved oxygen levels (Koehle 2006, p. 26), which may in part account for the Topeka shiner's apparent drought condition tolerance. Topeka shiners are typically found in small, low order, prairie streams with good water quality and cool temperatures. These streams generally flow all year; however, some may become intermittent during late summer and fall. Pool water levels and cool temperatures are maintained by percolation through the stream bed, spring flow, or groundwater seepage when surface

water flow ceases in these stream reaches (Minckley and Cross 1959, p. 212; Pflieger 1975, p. 162; Service 1993, p. 5; Service 1998, p. 69008). Topeka shiners generally inhabit streams with clean gravel, cobble, or sand bottoms. However, bedrock and clay hardpan covered by a thin layer of silt are not uncommon (Minckley and Cross 1959, p. 212).

Topeka shiners are found in pools and runs, and only rarely in riffles. In the northern portion of its range (Iowa, Minnesota, and South Dakota), the Topeka shiner is frequently found in off-channel aquatic habitat (Clark 2000, p. 7; Dahle 2001, p. 8; Berg *et al.* 2004, p. 1). These habitats are characterized by lack of flow, moderate depth, and substrate composed of a thick silt and detritus layer (Dahle 2001, p. 9; Hatch 2001, p. 41). However, such off-channel habitat is rarely found along prairie headwater streams in Missouri. Occasionally, Topeka shiners have been found in larger streams, downstream of known populations, presumably as migrants (Pflieger 1975, p. 162; Service 1993, pp. 5–9; Service 1998, p. 69008). Dahle (2001, p. 39) noted that the Topeka shiner is a multiple clutch spawner and reported that relative abundance was higher in off-channel habitat than instream habitat.

The Topeka shiner was once widespread and abundant in headwater streams throughout the Central Prairie Region of the United States. The species' range historically included much of Missouri, Iowa, and Kansas, as well as portions of Nebraska, South Dakota, and Minnesota (Bailey and Allum 1962, pp. 68–70; Cross 1970, p. 254; Gilbert 1988, p. 317). In Missouri, Topeka shiners historically occurred in most of the prairie and Ozark border portions of north and central Missouri. With the

exception of a population known from Cedar Creek, a tributary of the Des Moines River in Clark County (Mississippi River basin), all Topeka shiner populations in Missouri are known from the Missouri River basin. The species once occupied portions of the Missouri, Grand, Lamine, Chariton, Crooked, Des Moines, Loutre, Middle, Hundred and Two, and Little Blue river basins (MDC 2010, p. 10).

Since 1940, the species has been extirpated from many Missouri River tributaries, including Perche Creek, Petite Saline Creek, Tavern Creek, Auxvasse Creek, Middle River, Moreau River, Splice Creek, Slate Creek, Crooked River, Fishing River, Shoal Creek, Hundred and Two River, and Little Blue River watersheds (Bailey and Allum 1962, pp. 69–70; Pflieger 1971, p. 360; MDC 2010, p. 10). Topeka shiners have been observed in the following Missouri streams, with the most recent observations in parentheses: Moniteau Creek headwaters in Cooper and Moniteau Counties (2008), Clear Creek (1992) and a tributary of Heath's Creek (1995) in Cooper and Pettis Counties, Bonne Femme Creek watershed in Boone County (1997), Sugar Creek and tributaries in Daviess and Harrison Counties (2008), Dog Branch in Putnam County (1990), and Cedar Creek in Clark County (1987) (MDC 2010, p. 10; Novinger 2011, pers. comm.). It is presumed Topeka shiners are extirpated from the Bonne Femme Creek watershed (MDC 2010, p. 10).

The Topeka shiner in Missouri exists in highly disjunct populations in a small fraction of its historical range. Sampling specifically for Topeka shiners during the early 1990s found this species at only 19 percent (14 of 72) of historical sites, and at only 15 percent (20 of 136) of the total sites sampled in Missouri (Gelwicks and Bruenderman

1996, p. 5). Additionally, the remaining populations were found to be smaller than they had been recorded historically. For example, more than 300 Topeka shiners were recorded among 7 locations in Bonne Femme Creek from 1961 to 1983. However, during comparable surveys within the same watershed, in the 1990s, only six Topeka shiners were identified at two locations (Wiechman, MDC 2012, pers. comm.). The isolation and small size of the remaining populations makes them highly vulnerable to extirpation. Currently, remaining viable populations of Topeka shiners can be consistently found in only two Missouri stream systems: Moniteau Creek headwaters in Cooper and Moniteau Counties, and Sugar Creek headwaters in Daviess and Harrison Counties. Several other streams have produced samples of a few individuals in the past 25 years, but these occurrences are based on a very limited number of fish (MDC 2010, p. 10).

Effects of Establishing a Nonessential Experimental Population on Recovery of the Species

Restoring an endangered or threatened species to the point where it is recovered is a primary goal of the Service's endangered species program. Although a Service recovery plan has not been issued for the Topeka shiner, the MDC devised State-specific recovery criteria for the species in their 10-year Strategic Plan for the Recovery of the Topeka Shiner in Missouri (MDC 2010, p. 8). The recovery goal of this plan is to stabilize and enhance Topeka shiner numbers in Missouri by securing populations in

seven streams. Seven populations would be equivalent to one half of the known populations sampled in Missouri since 1960. Two main criteria were established to accomplish the goal: (1) Reduce or eliminate major threats and restore suitable habitat in Moniteau Creek and Sugar Creek watersheds, and (2) introduce (or reintroduce) and establish secure populations in five additional streams (MDC 2010, p. 8). According to fisheries experts with the Missouri Department of Conservation and as outlined in MDC's strategic plan, the designation of a Topeka shiner NEP in Missouri is necessary to establish new populations in the State (MDC 2010, p. 26).

The MDC (2011a, pp. 1–2; 2011b, pp. 2–3; 2011c, p. 3) established six criteria for identifying possible reintroduction sites in Missouri: (1) Propagation and release sites are to be under public ownership; (2) ownership involves a partner committed to conservation; (3) release sites are within relatively close proximity to existing Topeka shiner populations; (4) release sites are within the overall historical range of the species in Missouri; (5) the overall condition of the stream (e.g., land use, environmental parameters, stream bank and channel stability, ecological and biological integrity) and watershed is suitable; and (6) the perceived likelihood of success of the reintroduction is high because there are no physical barriers that will prevent the species from inhabiting these sites. We have selected high-quality streams for reintroduction that will support growth, survival, and natural reproduction. Sites selected are also deemed to be adequate to facilitate expansion of reintroduced populations.

Location of the Nonessential Experimental Population

Based on criteria outlined above for reintroduction sites, Little Creek headwaters in Harrison County; East Fork Big Muddy Creek in Gentry, Harrison, and Worth Counties; and tributaries of Spring Creek in Adair, Putnam, and Sullivan Counties have been identified for initial release efforts (MDC 2010, pp. 27–31). Although no historical records exist of Topeka shiner in the selected reintroduction sites, the species likely once inhabited these waters. Our conclusion is based on the following: (1) The species was historically known from adjacent watersheds—Little Creek and Big Muddy Creek are located approximately 16–19 air miles (mi.) (25.75–30.58 air kilometers (km)) from extant sites in Harrison County, Missouri (Wiechman 2012, pers. comm.), and the Spring Creek watershed in Adair, Putnam, and Sullivan Counties is located approximately 11 air mi. (17.7 air km) (Novinger 2012, pers. comm.) from a historical location in Putnam County, Missouri; (2) habitat is identical or similar to currently occupied sites in Harrison County, Missouri; and (3) the reintroduction sites have suitable habitat necessary for the successful establishment of the species (MDC 2011a, pp. 1–2).

The reintroduction areas will include both pond (similar to off-channel habitats used by the species elsewhere within its range) and stream habitats. Initial donor populations of Topeka shiner will originate from extant sites in Sugar Creek, Harrison County, and be propagated at MDC’s Lost Valley Hatchery in Warsaw, Missouri. Future captive-breeding of the Topeka shiner would occur in pond habitats, and the progeny would be used to stock the NEP streams rather than continual use of the Lost Valley Hatchery (Novinger 2012, pers. comm.). The subsequent use of pond fish for ongoing

reintroduction efforts will be dependent upon the success of propagation efforts at The Nature Conservancy's Dunn Ranch, MDC's Pawnee Prairie Natural Area (NA), and MDC's Union Ridge Conservation Area (CA) (see below) (Novinger 2012, pers. comm.).

Little Creek

Little Creek is a tributary to West Fork Big Creek in the greater Grand River drainage. The NEP portion of the watershed is located in the headwaters of Little Creek and is estimated at 7,600 acres (ac) (3,075 hectares (ha)). The area extends from the backwaters of Harrison County Lake, upstream to the headwaters of Little Creek, and includes all tributaries in this reach from the reservoir to headwaters. Specific reintroduction sites will be located in select ponds (greater than 8 feet (2.44 m) deep) and in headwater stream reaches on Dunn Ranch, which is owned and operated by The Nature Conservancy (TNC). Dunn Ranch comprises the upper half of the watershed, and it has several characteristics that promote a successful reintroduction program (e.g., land management within the watershed is excellent) (MDC 2011a, p. 2). Harrison County Lake (280 ac) (113.1 ha) is identified as the downstream extent of the NEP because it supports a popular sport fishery with abundant predator fishes (largemouth bass, crappie, channel catfish), which greatly limit the potential for downstream migration of cyprinid species (MDC 2011a, p. 2). Little Creek is approximately 16 air miles (mi.) (25.75 air kilometers (km)) from extant sites in Harrison County, Missouri (Wiechman 2012, pers. comm.). A physical barrier in Harrison County Lake downstream of the reintroduction

site will prevent the mixing of wild and reintroduced populations of Topeka shiners (MDC 2011a, p. 7).

Big Muddy Creek

Big Muddy Creek is a tributary to the East Fork Grand River drainage, and its watershed covers 44,339 ac. Land use is predominantly grassland (60 percent), containing minor components of cropland (16 percent) and deciduous forest (15 percent). Cropland is concentrated in the bottomland along the mainstem of Big Muddy Creek. Grassed uplands are mostly used for cattle grazing and hay production. Headwaters of Big Muddy Creek (upper 33 percent of watershed) lie within the Grand River Grasslands Conservation Opportunity Area (GRGCOA). Two notable properties within the GRGCOA portion of Big Muddy Creek include MDC's Pawnee Prairie Natural Area (NA) (476 ac) (192 ha) and TNC's Pawnee Prairie (500 ac) (202 ha), which are cooperatively managed for native prairie and associated wildlife (MDC 2011b, pp. 1–2).

The 10-year-old GRGCOA covers approximately 70,000 ac (28,327 ha) in northern Missouri and southern Iowa, with approximately 14,800 ac (5,989 ha) (21 percent) located within the Big Muddy Creek basin. In northern Missouri, GRGCOA is believed to have the greatest potential to restore a functioning tallgrass prairie ecosystem on a landscape scale. The MDC, TNC, the Iowa Department of Natural Resources, the Natural Resources Conservation Service, the Service, and interested private landowners are working cooperatively to restore prairie, promote soil conservation practices, and enhance habitat for prairie chickens in this area. Prescribed burning is commonly used to

help meet these objectives. Experimental patch-burn grazing on Pawnee Prairie NA is also being evaluated by MDC and Iowa State University (MDC 2011b, p. 2).

The eastern side of MDC's Emmet and Leah Seat Memorial (Seat) Conservation Area (CA) (2,030 ac) (821 ha) is located within the Little Muddy Creek basin, a lower sub-basin to Big Muddy Creek. Little Muddy Creek basin is located outside the GRGCOA. Seat CA is a mixture of old field, grasslands, cropland, and woodland habitats. The area features public hunting (deer, turkey, quail, small game), primitive camping, an archery range, 16 fishable ponds (totaling 13 ac), and a permanent stream. The area is managed primarily for upland game hunting (MDC 2011b, p. 2).

The Big Muddy Creek watershed, from its confluence with East Fork Grand River upstream through all headwaters, is included in the NEP area for the following reasons: (1) There are no known fish barriers; (2) there are no reservoirs (except small farm ponds) with abundant predator fishes; and (3) stream size remains relatively small with habitat conditions comparable to those found in reaches of Sugar Creek where Topeka shiners occur. Big Muddy Creek is approximately 19 air miles (mi.) (30.58 air kilometers (km)) from extant sites in Harrison County, Missouri (Wiechman 2012, pers. comm.). East Fork Grand River is believed to effectively limit the potential for downstream migration of cyprinids given its higher densities of predator fishes (predominantly channel catfish) and minimal cover for small fish (MDC 2011b, p. 2). A physical barrier in the East Fork of the Grand River downstream of the reintroduction site will prevent mixing of wild and reintroduced populations of Topeka shiners (MDC 2011b, p. 9).

Spring Creek

Spring Creek is a tributary to the Chariton River, and its watershed covers 60,869 ac (24,632 ha). Land use is essentially limited to deciduous woodlands (41 percent) and grassland (39 percent), with only 10 percent cropland. Cropland is concentrated in the bottomland along the mainstem of Spring Creek and in the upper watershed in the Unionville Plains. Grassed uplands are mostly used for cattle grazing and hay production. The Union Ridge Conservation Opportunity Area (URCOA) and the Spring Creek Priority Watershed (SCPW) encompass roughly 75 percent of the Spring Creek watershed. MDC ownership within the watershed includes Morris Prairie CA (167 ac) (67 ha), Dark Hollow NA (315 ac) (127 ha), Union Ridge CA (8,110 ac) (3,282 ha), and Shoemaker CA (259 ac) (104 ha). Morris Prairie NA (47 ac) (19 ha) and Spring Creek Ranch NA (1,769 ac) (716 ha) are located within the boundaries of Morris Prairie CA and Union Ridge CA, respectively. These properties are managed for native prairie-savanna-woodland and associated wildlife (MDC 2011c, p. 1).

The Spring Creek watershed, from its confluence with the Chariton River upstream through all headwaters, is included in the NEP area for the following reasons: (1) There are no known fish barriers; (2) there are no reservoirs (except small farm ponds) with abundant predator fishes; and (3) stream size remains relatively small, with habitat conditions comparable to those found in reaches of Sugar Creek where Topeka shiners occur. The Spring Creek watershed in Adair, Putnam, and Sullivan Counties is located approximately 47 air mi. (75.64 air km) (Wiechman 2012, pers. comm.) from

extant sites in Harrison County, and the Spring Creek locations are not in any watershed where there are extant records of Topeka shiner (MDC 2011c, pp. 8–11). The Chariton River is believed to effectively limit the potential for downstream migration of Topeka shiners given its higher densities of predator fishes (predominantly channel catfish) and minimal cover for small fish (MDC 2011c, p. 2).

Initial reintroduction sites for Topeka shiners will be in at least six ponds and all suitable stream reaches on MDC's Union Ridge CA. Subsequent monitoring of Topeka shiners will be restricted to the middle-Spring Creek sub-basin of the Spring Creek watershed. Within Spring Creek, this sub-basin is believed to offer the greatest potential to establish a self-sustaining population of Topeka shiners, and the smaller size of the middle-Spring Creek sub-basin also allows for regional Fisheries staff to reasonably complete monitoring efforts and evaluate success (MDC 2011c, p. 2).

Likelihood of Population Establishment and Survival

A subset of the ponds on Dunn Ranch, Pawnee Prairie, and Union Ridge CA determined to be suitable for the propagation of Topeka shiners will be treated with rotenone to remove potential predators prior to stocking (MDC 2011a, p. 2; MDC 2011b, p. 2; MDC 2011c, p. 3). Spawning gravel will also be added to littoral areas (0–1 meter deep). The success of reproduction in these ponds will be compared to ponds with bare soil bottom types that did not receive spawning gravel. Reducing predators and

increasing spawning success should increase the likelihood of population establishment and survival.

Addressing Causes of Extirpation

The Topeka shiner has declined throughout its range for apparently numerous reasons. Reductions and disappearance of many Topeka shiner populations appear to be related to a combination of physical degradation of habitat and species interactions (MDC 2010, p. 11). Physical degradation of habitat is primarily related to patterns of land use including destruction, modification and fragmentation of habitat resulting from siltation, reduced water quality, tributary impoundment, and reduction of water levels (MDC 2010, p. 11). These habitat alterations may have been caused by intensive agriculture, urbanization, and highway construction (Minckley and Cross 1959, p. 216; Cross and Moss 1987, p. 165; Pflieger 1997, p. 199; Tabor 1992, pp. 38–39; MDC 2010, p. 11).

Bayless *et al.* (2003, p. 47) found that generally good water quality and habitat prevailed in the Moniteau Creek watershed, where the largest remaining populations of the Topeka shiner persist. No overall pattern relating Topeka shiner distribution and water quality was detectable; however, the Topeka shiner has never been observed in sub-basins of the watershed characterized by chronically extreme levels of urbanization, nutrient additions, and turbidity. Construction of watershed impoundments that limit sediment-flushing flows and provide a source of piscivorous predators, low-water crossings that obstruct animal and particle passage, and reduction of groundwater levels

resulting from irrigation may have also contributed to the Topeka shiner's decline (Layher 1993, pp. 15–17; Tabor 1992, p. 39; Pflieger 1997, p. 155; Schrank *et al.* 2001, p. 419; Mammoliti 2002, p. 2; MDC 2010, p. 11).

Species interactions, such as predation and competition with other fishes, have likely played a role in the decline of the Topeka shiner in portions of its range. Stocking piscivores such as largemouth bass (*Micropterus salmoides*), crappie (*Pomoxis* spp.), and bluegill (*Lepomis macrochirus*) in ponds constructed in watersheds containing the Topeka shiner has probably accelerated the decline of the Topeka shiner through predation (MDC 2010, p. 11). Additionally, Pflieger (1997, p. 155) suggested that the introduced blackstripe topminnow (*Fundulus notatus*) and western mosquitofish (*Gambusia affinis*) likely compete with the Topeka shiner for food.

The Topeka shiner in Missouri has declined in the presence of largemouth bass, bluegill, and blackstripe topminnow, and this decline coincided with the decline of other fishes considered generally tolerant of poor physical and chemical conditions but intolerant of species interactions (Winston 2002, p. 249). Schrank *et al.* (2001, p. 413) noted that sites where the Topeka shiner had been extirpated in Kansas had a greater number of small impoundments in the watershed, longer pools, higher catch per effort of largemouth bass, and higher species diversity by trophic guild and richness compared to sites where the Topeka shiner was extant. Dahle and Hatch (2002, p. 3) determined the threat of predation of Topeka shiners by piscivorous fish (including largemouth bass) in southwest Minnesota streams was low due to the rarity of such predators.

Other unidentified factors may be responsible for the loss of the Topeka shiner from some streams and for localized undocumented fish kills. Further study is needed to determine the relative significance of habitat degradation versus species interactions as causes for the decline of the Topeka shiner. Koehle (2006, p. 26) found Topeka shiners to be tolerant of high water temperatures and low dissolved oxygen levels. Additional experimental studies would be particularly useful to elucidate the physiological tolerances and behavior of the Topeka shiner in addition to comparisons of the hydrology, water chemistry, physical habitat, land use practices, and fish communities in areas where the species persists and where it has been extirpated (MDC 2010, p. 11).

All reintroduction sites are on public land, and are properly managed to prevent potential causes of extirpation (Pflieger 1997, pp. 154–155). In addition to implementing management techniques that will sustain headwater prairie stream habitat, efforts have been undertaken to eliminate potential predation by nonnative piscivorous fish (MDC 2010, pp. 26–31). Ponds on Dunn Ranch, Pawnee Prairie NA, and Union Ridge CA determined to be suitable for the propagation of Topeka shiners were treated with rotenone during the summer of 2011, to remove potential piscivorous predators prior to stocking (MDC 2011a, p. 2; MDC 2011b, p. 2; MDC 2011c, p. 3). Ponds will be regularly monitored to assess success of removal operations. Additional treatments will be provided if needed to ensure ponds are free of fish predators before any stocking takes place. Such actions should improve the probability of success of reintroduction efforts. Ponds on reintroduction areas used in propagation efforts will likely duplicate off-channel habitats occupied by Topeka shiners elsewhere within the species' range (MDC

2010, p. 26). The use of such ponds in propagation efforts will serve as refugia for Topeka shiners during extreme drought and may provide excellent sources of intra-basin transfers to promote population expansion (MDC 2011a, p. 2).

Release Procedures

Initial donor populations of Topeka shiner will originate from extant sites in Sugar Creek, Harrison County, and from fish propagated at MDC's Lost Valley Hatchery in Warsaw, Missouri. NEP reintroductions will include pond and stream habitats within the Little Creek, Big Muddy Creek, and Spring Creek watersheds. Captive-reared fish will be stocked into stream and pond habitats by MDC fisheries personnel. Cooperators include MDC, TNC, and the Service. Topeka shiners that are subsequently and successfully reared in ponds on Dunn Ranch, Pawnee Prairie NA, and the Union Ridge CA will be placed into stream habitats following established stocking protocols described in the reintroduction plans (MDC 2011a, 2011b, and 2011c). We do not anticipate that the removal of fish would have a deleterious effect on the genetics of the species, because only a sample of Topeka shiners in Sugar Creek will be collected.

Parameters to Assess the Success of the Reintroduction

Sampling Sites

Information on fish species composition and simple stream habitat conditions will be collected at sites throughout the NEP portion of the Little Creek, Big Muddy Creek, and Spring Creek watersheds prior to initial stockings. Twenty-five sites with 3 pools per site that are at least 200 meters (m) in length will be selected using a Generalized Random Tessellation Stratified (GRTS) design (http://www.epa.gov/nheerl/arm/designing/design_intro.htm).

Fish Sampling

Each pool will be sampled once with a 15-foot (ft) (4.57-m) \times 6-ft (1.83-m), one-eighth-inch (0.32-centimeters (cm)) mesh drag seine to collect fish. To be more effective in narrow pools (width less than 6 m), the net may be shortened to facilitate sampling. Two nets hauled side-by-side will be used for wide pools between 10 and 20 m in width. All species present in a catch will be identified and categorized by apparent relative abundance: “low” is defined by low approximate number (fewer than 10 fish) and low approximate percent of total catch (less than 5 percent); “medium” (10–50 fish, less than 25 percent); or “high” (greater than 50 fish, greater than 25 percent). Presence of juvenile Topeka shiners (less than 40 millimeters (mm) total length) will be noted as an indication of spawning at each site.

Habitat—Habitat variables to be measured in the field in each pool include: Global Positioning System (GPS) coordinates at the downstream edge of the pool using Universal Transverse Mercator North American Datum of 1983 (UTM NAD83); water temperature and conductivity (measured with a handheld meter, indicates ion

concentration and relative degree of water replenishment); pool length and representative pool width (measured with rangefinder or meter stick), and maximum depth (via meter stick or similar); visual assessments of the relative amount of silt or organic debris covering the stream bottom (1=almost none, 2=thin layer, 3=thick layer) and overall substrate type/coarseness (1=clay or bedrock, 2=small rock less than 128 mm diameter/cobble, 3= large rock greater than 128 mm); degree of pool isolation (1=intermittent or isolated, 2=continuous or interconnected by flowing water habitat); and overall level of seining difficulty (1=not difficult, 2=difficult). Visual assessments and level of difficulty will be based on consensus of the sampling crew. An adaptive monitoring approach will be used to assess the NEP population numbers and habitat variables; adjustments will be made, if necessary, after assessing the monitoring techniques.

Initial Stocking

Ponds—Topeka shiners will be stocked at a rate of 500 fish per acre in designated ponds at reintroduction sites on public properties. All fish will come from either Sugar Creek (Harrison County) or those propagated at MDC's Lost Valley Hatchery. Additionally, orangespotted sunfish will be stocked in each pond at a rate of 25 to 50 fish per acre. The source of the sunfish will preferably be from Sugar Creek broodstock propagated at MDC's Lost Valley Hatchery or another local basin within the greater Grand River watershed. Green sunfish (also from local basins) may be substituted to

meet desired stocking rates for sunfish if adequate numbers of orangespotted sunfish cannot be reasonably collected.

Stream Reaches—Topeka shiners will also be stocked in suitable stream reaches within the NEP area on public properties at a minimum rate of 5,000 fish per mile. Based on monitoring data, a need for stocking sunfish would be determined for selected stream reaches on public properties. Sources of Topeka shiners and sunfish will be the same as described above for the ponds.

Supplemental Stocking

Supplemental stockings of Topeka shiners or sunfish will be conducted for ponds or selected stream reaches on public properties within the greater NEP portion of Little, Big Muddy, and Spring creeks, if necessary. Criteria for such stockings will be determined by MDC fisheries personnel as needed and necessary to meet reintroduction goals outlined in MDC's 10-year Action Plan for the Topeka Shiner (MDC 2010, pp. 29–35). Supplemental stocking rates in ponds and streams will occur at the same rates described for initial stockings above.

Effects on Extant Populations

Individual Topeka shiners used to establish an experimental population will be supplied by MDC's Lost Valley Hatchery in Warsaw, MO, propagated under the Federal Fish and Wildlife Permit #TE71730A. The donor population for the Lost Valley Hatchery is from sites in Sugar Creek, Harrison County, Missouri. Sugar Creek's Topeka

shiner population is closest to reintroduction sites. Typical gear used for small cyprinids will be used to collect Topeka shiners, and they will be held at Lost Valley Hatchery until they could be stocked into pond and stream habitats at identified reintroduction sites.

The 10-year Strategic Plan for the Recovery of the Topeka Shiner in Missouri (MDC 2010, pp. 29–35) and reintroduction plans for Topeka shiner in the Little Creek, Big Muddy Creek, and Spring Creek watersheds (MDC 2011a, pp. 1–9; MDC 2011b, pp. 1–11; MDC 2011c, pp. 1–11) contain additional information on the release procedures and monitoring protocols (see FOR FURTHER INFORMATION CONTACT for copies of this document or go to <http://www.regulations.gov>).

Status of the NEP Population

We will ensure, through our section 10 permitting authority and the section 7 consultation process, that the use of Topeka shiner from the donor population within the Sugar Creek Basin for releases into Little Creek, Big Muddy Creek, and Spring Creek is not likely to jeopardize the continued existence of the species in the wild.

The special rule that accompanies this section 10(j) final rule is designed to broadly exempt, from the section 9 take prohibitions, any take of Topeka shiners that is incidental to otherwise lawful activities. We provide this exemption because we believe that such incidental take of members of the NEP associated with otherwise lawful activities is necessary and advisable for the conservation of the species.

This designation is justified because no adverse effects to extant wild or captive Topeka shiner populations will result from release of progeny from the Sugar Creek

population. Transfer of disease or mixing of wild and reintroduced populations is not possible due to the distances involved between the donor population and reintroductions, the watersheds involved, and the physical barriers associated with the Little Creek and Big Muddy Creek watersheds. The majority of the reintroductions will occur on managed public land, and exemptions from prohibition for activities on private land are not likely to result in the loss of the NEP. Successful propagation of Topeka shiners in ponds at Dunn Ranch, Pawnee Prairie NA, and Union Ridge CA will provide a continual reservoir of Topeka shiners for supplemental stocking as needed. We expect that the reintroduction effort into Little, Big Muddy, and Spring creeks will result in the successful establishment of a self-sustaining population of Topeka shiners, which will contribute to the recovery of the species.

Extent to Which the Reintroduced Population May be Affected by Land Management within the NEP Watersheds

We conclude that the effects of Federal, State, or private actions and activities will not pose a substantial threat to Topeka shiner establishment and persistence in the Little Creek, Big Muddy Creek, and Spring Creek watersheds, because most activities currently occurring in the NEP area are compatible with Topeka shiner recovery, and there is no information to suggest that future activities will be incompatible with Topeka shiner recovery. Most of the area containing suitable release sites with high potential for Topeka shiner establishment is managed by MDC or TNC through the following mechanisms:

(1) There are existing best management practices (BMPs) for Topeka shiners that are followed by MDC and TNC; these practices include recommendations to maintain the water quality and headwater stream habitat (MDC 2000, p. 1).

(2) Reintroduction plans have been developed for all NEP sites (MDC 2011a, pp. 1–9; MDC 2011b, pp. 1–11; MDC 2011c, pp. 1–9).

(3) All reintroduction sites are managed to maintain Topeka shiner habitat (MDC 2011a, pp. 1–9; MDC 2011b, pp. 1–11; MDC 2011c, pp. 1–9).

Management issues related to the Topeka shiner NEP that have been considered include:

(a) *Incidental take*: The regulations implementing the Act define “incidental take” as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity (50 CFR 17.3), such as agricultural activities and other rural development, and other activities that are in accordance with Federal, Tribal, State, and local laws and regulations. Experimental population special rules contain specific prohibitions and exceptions regarding the taking of individual animals. By finalizing this 10(j) rule, incidental take of Topeka shiners within the NEP area will not be prohibited, provided that the take is unintentional and is in accordance with the special rule that is a part of this 10(j) rule. However, if we find evidence of intentional take of an individual Topeka shiner within the NEP that is not authorized by the special rule, we will refer the matter to the appropriate law enforcement entities for investigation.

(b) *Special handling*: In accordance with 50 CFR 17.21(c)(3), any employee or agent of the Service, any other Federal land management agency, or State personnel,

designated for such purposes, may in the course of their official duties, handle individual Topeka shiners to aid sick or injured individual Topeka shiners, or to salvage dead individual Topeka shiners. Other persons will need to acquire permits from the Service for these activities.

(c) *Coordination with landowners and land managers:* The Service and our cooperators have identified issues and concerns associated with the Topeka shiner nonessential experimental population establishment. The NEP establishment was discussed with potentially affected State agencies, Tribal entities, local governments, businesses, and landowners within the reestablishment area. Affected State agencies, landowners, and land managers have indicated support for, or no opposition to, the NEP establishment, provided an NEP is designated and a special rule is promulgated to exempt incidental take from the prohibitions under section 9.

(d) *Public awareness and cooperation:* We will inform the general public of the importance of this reintroduction project in the overall recovery of the Topeka shiner in Missouri. After the publication of the proposed rule, we hosted two public meetings on February 19 and March 7, 2013, and informed the public of the purpose of the reintroduction, while emphasizing that the proposed NEP would not impact activities on private property. Additionally, MDC fisheries and private land biologists and the Service will highlight the same issues while working with private landowners on various landowner incentive programs or when providing technical assistance within the designated NEP watersheds. The designation of the NEP within Little Creek, Big Muddy Creek, and Spring Creek will provide greater flexibility in the management of the

reintroduced Topeka shiner individuals. Affected State agencies, landowners, and land managers have either indicated support for, or no opposition to, the population establishment, provided the NEP is designated and a special rule is promulgated that does not prohibit incidental take.

(e) *Potential impacts to other federally listed species:* No other federally listed species are present within streams where the NEP is to be designated; therefore, Topeka shiner reintroductions will not impact any other federally listed species.

(f) *Monitoring and evaluation:* Monitoring of changes in the distribution of Topeka shiners will be undertaken using occupancy modeling or a similar approach following procedural guidelines described in MacKenzie *et al.* (2006, pp. 183–224). Monitoring will be undertaken annually by personnel of the MDC, and results will be communicated to the public during future public meetings and through the use of outreach documents. If monitoring of released individuals indicates that reintroductions have been successful, additional release areas may be identified in a proposed rule in the **Federal Register** at a future date, following guidelines outlined in MDC’s 10-year Strategic Plan for Recovery of the Topeka Shiner in Missouri (MDC 2010, p. 8). We project that it will be necessary to establish Topeka shiners in seven reintroduced populations to achieve recovery of the species in Missouri (MDC 2010, p. 26). However, this final rule covers only three of the seven reintroductions because the potential establishment of the remaining four populations will be contingent upon the success of initial propagation and release efforts. Reintroduction into the remaining sites will also follow the same protocols and guidelines conducted under this 10(j) rule, including the

opportunity for the public to comment on such reintroductions in a possible future proposed rule.

Reintroduction Effectiveness Monitoring:

Evaluations of our reintroduction goal and objectives will require monitoring for at least 10 years following initial stockings. Initial success of the reintroduction efforts will be evaluated through annual sampling of ponds and selected stream reaches on public properties during the first 3 years following initial stockings. Pond sampling will include fall seining with at least five, one-fourth arc pulls around the shore. Catch rates (fish per pull) will be recorded for shiners and sunfish, and a subsample of up to 100 Topeka shiners will be used to evaluate natural reproduction. Topeka shiners that are less than 40 mm (1.6 inches) in length will be considered juveniles. Minnow traps may also be used as a comparison to seining data. Stream sampling will follow the methods described earlier for “Baseline Data” sampling. After the first 3 years, ponds stocked with Topeka shiners will be monitored biennially for 10 years. Stream monitoring will be continued annually for 10 years to measure changes in the distribution of Topeka shiners, other fishes in the watershed, and trends in stream habitat conditions. Program Presence (Hines 2006) software to estimate patch occupancy and related parameters will be used to evaluate changes in occupancy and determine Topeka shiner use of Little Creek, Big Muddy, and Spring Creek watersheds.

Donor Population Monitoring:

The MDC will continue to monitor the donor population of Topeka shiners in Sugar Creek. Monitoring of the donor population will follow guidelines established in the 10-Year Strategic Plan for the Recovery of Topeka Shiner in Missouri (MDC 2010, pp. 55–60); however, occupancy modeling will follow the protocols and principles in MacKenzie *et al.* (2006, pp. 183–224) to assess the status of the species. If monitoring detects a significant decline in donor populations, appropriate management action will be taken.

Monitoring Impacts to Other Listed Species:

No other federally listed species occur within ponds or streams targeted for reintroductions; therefore, this monitoring will not impact any other federally listed species.

Summary of Comments and Responses

In the proposed rule published on January 23, 2013 (78 FR 4813), we requested that all interested parties submit written comments on the proposal by March 25, 2013. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. Newspaper notices inviting general public comment were published in the Albany Ledger, the Bethany Republican Clipper, the Grant City Time's Tribune, the Kirksville Daily Express, the Milan Standard, and the Unionville Republican. We held a public meeting on February 19, 2013, in Eagleville, Missouri, and one on March 7, 2013, in Green City, Missouri.

During the public comment period on the proposed rule, we received a total of two comment letters addressing the proposed special rule. During the public meetings held on February 19, 2013, and March 7, 2013, representatives from The Nature Conservancy provided verbal comments on the proposed rule. All comments received supported the Service's proposed rule. All substantive information provided during the comment periods has either been incorporated directly into this final determination or addressed below.

Peer Review

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from two knowledgeable individuals with scientific expertise that included familiarity with Topeka shiner and its habitat, biological needs, and threats and from two individuals who are recognized fish biology, ecology and conservation experts. We received a response from one of the peer reviewers.

We reviewed all comments received from one peer reviewer for substantive issues and new information regarding the proposed 10(j) determination and reintroduction of Topeka shiner into portions of the species' historical range in Adair, Gentry, Harrison, Putnam, Sullivan, and Worth Counties, Missouri. The peer reviewer concurred with our methods and conclusions, and commented that determining the success of initial reintroductions before proposing the establishment of additional populations was wise conservation planning. He further concurred that the proposed reintroductions would further the conservation of Topeka shiner in Missouri.

Comments from States

Section 4(i) of the Act states, “the Secretary shall submit to the State agency a written justification for his failure to adopt regulations consistent with the agency’s comments or petition.” The Missouri Department of Conservation completely supports the proposed action. They have been active partners with the Service in reintroduction efforts and much of the information, proposed locations, monitoring protocols, and propagation goals provided in the proposed rule are outlined in their 2010 State Action Plan (MDC 2010, pp. 7-60). The MDC State Action Plan includes guidelines for establishing seven populations within the species’ historical range, including recommendations for release locations, stocking rates, site preparations at pond locations, and monitoring protocols for assessing the success of reintroduction efforts.

Public Comments

Comment: Two commenters wholeheartedly supported the proposed rule and noted that such reintroductions were necessary due to habitat loss.

Our Response: The Service concurs that reintroductions are now necessary due to habitat destruction that contributed to the species’ decline.

Comment: One commenter questioned the need to designate reintroductions as a nonessential experimental population and the necessity to exempt from prohibitions any actions that could result in the incidental take of Topeka shiners.

Our Response: The Service believes that the designation of a nonessential experimental population enables us to provide regulatory flexibility that will ensure continued cooperation with private landowners and further enhance the likelihood of success.

Comment: One commenter questioned whether the Service would continue to view reintroduced fish as a nonessential experimental population, whether stocked fish were unable to recover on their own, and whether new measures and resources would be devoted to enhance the conservation of such individuals.

Our Response: The designation as a nonessential experimental population is not contingent upon the ability of stocked fish to successfully reproduce in the wild. The Service's determination that reintroductions are not essential to the continued existence of the species in the wild would not change. Nonetheless, the decision to establish two additional reintroduced populations in an effort to meet MDC's goal of seven populations (two are extant) will depend on the success of the reintroduction sites outlined in this final rule. Whether reintroduced fish will subsequently reproduce on their own is yet to be determined. MDC and TNC are committed to managing sites targeted for

reintroductions to the benefit of Topeka shiners to the maximum extent practical and logistically feasible.

Comment: One commenter asked if a failure of reintroductions would reflect on the species' ability to recover in the wild.

Our Response: The Service believes that reintroductions are essential to recovery of the species in Missouri. The success of reintroductions depends on a number of factors (e.g., population levels, genetics, climatic variables) and the failure of such efforts would not necessarily be due to a species' ability to recover on its own without human assistance. In the event reintroduced fish do not reproduce, the Service, MDC, and TNC will use an adaptive management framework to determine what adjustments in reintroduction strategies would be needed to further recovery and improve the likelihood of success. Without reintroduction efforts, it is possible, however, that the species could become extirpated in the State. Consequently, we have determined that reintroductions will further the conservation of the species.

Findings

We followed the procedures required by the Act, NEPA, and the Administrative Procedure Act during this Federal rulemaking process. We solicited public comment on the proposed NEP designation. We have considered all comments received on the proposed rule before making this final determination. Based on the above information,

and using the best scientific and commercial data available (in accordance with 50 CFR 17.81), we find that releasing Topeka shiners into portions of the species' historical range in Adair, Gentry, Harrison, Putnam, Sullivan, and Worth Counties, Missouri will further the conservation of the species, but that this population is not essential to the continued existence of the species in the wild.

Required Determinations

Regulatory Planning and Review (Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and

an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996; 5 U.S.C. 601 *et seq.*), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare, and make available for public comment, a regulatory flexibility analysis that describes the effect of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. We are certifying that this rule will not have a significant economic effect on a substantial number of small entities. The following discussion explains our rationale.

The area affected in this final includes the release areas in northern Missouri and adjacent areas into which Topeka shiners may disperse, which over time could include significant portions of the NEP. Because of the regulatory flexibility for Federal agency actions provided by the NEP designation and because of the exemption for incidental

take in this special rule, we do not expect this rule to have significant effects on any activities within Federal, State, or private lands within the NEP. In regard to section 7(a)(2), the population is treated as proposed for listing and Federal action agencies are not required to consult on their activities. Section 7(a)(4) requires Federal agencies to confer (rather than consult) with the Service on actions that are likely to jeopardize the continued existence of a proposed species. Results of a conference are advisory in nature and do not restrict agencies from carrying out, funding, or authorizing activities. In addition, section 7(a)(1) requires Federal agencies to use their authorities to carry out programs to further the conservation of listed species, which will apply on any lands within the NEP area. As a result, and in accordance with these regulations, some modifications to proposed Federal actions within the NEP area may occur to benefit the Topeka shiner, but we do not expect projects would be halted or substantially modified as a result of these regulations.

This final rule will broadly authorize incidental take of the Topeka shiner within the NEP area, when such take is incidental to an otherwise lawful activity, such as agricultural activities, animal husbandry, grazing, ranching, road and utility maintenance and construction, other rural development, camping, hiking, fishing, hunting, vehicle use of roads and highways, and other activities in the NEP area that are in accordance with Federal, Tribal, State, and local laws and regulations. Intentional take for purposes other than authorized data collection or recovery purposes will not be permitted. Intentional take for research or recovery purposes will require a section 10(a)(1)(A) recovery permit under the Act.

The principal activities on private property near the designated NEP area are agriculture, rural development, and recreation. We conclude the presence of the Topeka shiner will not affect the use of lands for these purposes because there will be no new or additional economic or regulatory restrictions imposed upon States, non-Federal entities, or members of the public due to the presence of the Topeka shiner, and Federal agencies will have to comply only with sections 7(a)(1) and 7(a)(4) of the Act in these areas. Therefore, this rulemaking is not expected to have any significant adverse impacts to activities on private lands within the NEP area.

Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*):

(1) This final rule will not “significantly or uniquely” affect small governments. We have determined and certify under the Unfunded Mandates Reform Act, 2 U.S.C. 1502 *et seq.*, that this rulemaking will not impose a cost of \$100 million or more in any given year on local or State governments or private entities. A Small Government Agency Plan is not required. As explained above, small governments will not be affected because the NEP designation will not place additional requirements on any city, county, or other local municipalities.

(2) This rule will not produce a Federal mandate of \$100 million or greater in any year (i.e., it is not a “significant regulatory action” under the Unfunded Mandates Reform

Act). This NEP designation for the Topeka shiner will not impose any additional management or protection requirements on the States or other entities.

Takings (E.O. 12630)

In accordance with Executive Order 12630, this final rule does not have significant takings implications. This rule will allow for the take of reintroduced Topeka shiners when such take is incidental to an otherwise legal activity, such as agricultural activities and other rural development, camping, hiking, hunting, vehicle use of roads and highways, and other activities that are in accordance with Federal, State, Tribal, and local laws and regulations. Therefore, we do not believe that establishment of this NEP will conflict with existing or proposed human activities or hinder public use of the Little Creek, Big Muddy Creek, and Spring Creek or its tributaries.

A takings implication assessment is not required because this rule: (1) Will not effectively compel a property owner to suffer a physical invasion of property and (2) will not deny all economically beneficial or productive use of the land or aquatic resources. This rule will substantially advance a legitimate government interest (conservation and recovery of a listed species) and will not present a barrier to all reasonable and expected beneficial use of private property.

Federalism (E.O. 13132)

In accordance with Executive Order 13132, we have considered whether this final rule has significant Federalism effects and have determined that a federalism impact summary statement is not required. This rule will not have substantial direct effects on the States, on the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government. In keeping with Department of the Interior policy, we requested information from and coordinated development of this final rule with the affected resource agencies in Missouri. Achieving the recovery goals for this species in Missouri will contribute to its eventual delisting and its return to State management. No intrusion on State policy or administration is expected; roles or responsibilities of Federal or State governments will not change; and fiscal capacity will not be substantially directly affected. The special rule will operate to maintain the existing relationship between the State and the Federal Government and is being undertaken in coordination with the State of Missouri. Therefore, this rule does not have significant Federalism effects or implications to warrant the preparation of a federalism impact summary statement under the provisions of Executive Order 13132.

Civil Justice Reform (E.O. 12988)

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this rule will not unduly burden the judicial system and will meet the requirements of sections (3)(a) and (3)(b)(2) of the Order.

Paperwork Reduction Act

Office of Management and Budget (OMB) regulations at 5 CFR 1320, which implement provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), require that Federal agencies obtain approval from OMB before collecting information from the public. This final rule does not contain any new information collections that require approval. OMB has approved our collection of information associated with reporting the taking of experimental populations (50 CFR 17.84) and assigned control number 1018—0095, which expires on May 31, 2014. We may not collect or sponsor, and you are not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

The reintroduction of native species into suitable habitat within their historical or established range is categorically excluded from NEPA documentation requirements consistent with 40 CFR 1508.4, 43 CFR 46.205, 43 CFR 46.210, and 516 DM 8.5 B(6).

Government-to-Government Relationship with Tribes

In accordance with the presidential memorandum of April 29, 1994, “Government-to-Government Relations with Native American Tribal Governments” (59 FR 22951), Executive Order 13175 (65 FR 67249), and the Department of Interior Manual Chapter 512 DM 2, we have considered possible effects on federally recognized Indian tribes and have determined that there are no tribal lands within the areas targeted for reintroductions. Therefore, no tribal lands will be affected by this rule.

Energy Supply, Distribution or Use (E.O. 13211)

Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not expected to significantly affect energy supplies, distribution, and use. Because this action is not a significant energy action, no Statement of Energy Effects is required.

References Cited

A complete list of all references cited in this final rule is available at <http://www.regulations.gov> at Docket No. FWS–R3–ES–2012–0087 or upon request from the Columbia, Missouri, Ecological Services Field Office (see FOR FURTHER INFORMATION CONTACT).

Authors

The primary authors of this final rule are staff members of the Service's Columbia, Missouri, Ecological Services Field Office (see FOR FURTHER INFORMATION CONTACT).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we hereby amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245; unless otherwise noted.

2. Amend § 17.11(h) by revising the entry for “Shiner, Topeka” under “FISHES” in the List of Endangered and Threatened Wildlife to read as follows:

§17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Vertebrate population where endangered or threatened					
Common name	Scientific name	Historic Range	Status	When listed	Critical habitat	Special rules	
*	*	*	*	*	*		
FISHES							
*	*	*	*	*	*		
Shiner, Topeka	<i>Notropis topeka=tristis</i>	U.S.A. (IA, KS, MN, MO, NE, SD)	Entire, except where listed as an experimental population.	E	654	17.95(e) NA	
Shiner, Topeka	<i>Notropis topeka=tristis</i>	U.S.A. (IA, KS, MN, MO, NE, SD)	U.S.A. (MO—specified portions of Little Creek, Big Muddy Creek, and Spring Creek watersheds in Adair, Gentry, Harrison, Putnam, Sullivan, and Worth Counties; see 17.84(n)(1)(i)).	XN	—	NA 17.84(n)	
*	*	*	*	*	*		

3. Amend §17.84 by adding paragraph (n) to read as follows:

§17.84 Special rules—vertebrates.

* * * * *

(n) Topeka shiner (*Notropis topeka*).

(1) *Where is the Topeka shiner designated as a nonessential experimental population (NEP)?* (i) The NEP area for the Topeka shiner is within the species' historical range and includes those waters within the Missouri counties of Adair, Gentry, Harrison, Putnam, Sullivan, and Worth identified below in paragraph (n)(5) of this section.

(ii) The Topeka shiner is not known to currently exist in Adair, Gentry, Putnam, Sullivan, and Worth Counties in Missouri, or in those portions of Harrison County, Missouri, where the NEP is being designated. Based on its habitat requirements and potential predation by other fish predators, we do not expect this species to become established outside this NEP area, although there is a remote chance it may.

(iii) We will not change the NEP designations to “essential experimental,” “threatened,” or “endangered” within the NEP area without a public rulemaking. Additionally, we will not designate critical habitat for this NEP, as provided by 16 U.S.C. 1539(j)(2)(C)(ii).

(2) *What activities are not allowed in the NEP area?* (i) Except as expressly allowed in paragraph (n)(3) of this section, all the prohibitions of §17.21 apply to the Topeka shiner NEP.

(ii) Any manner of take not described under paragraph (n)(3) of this section is prohibited in the NEP area.

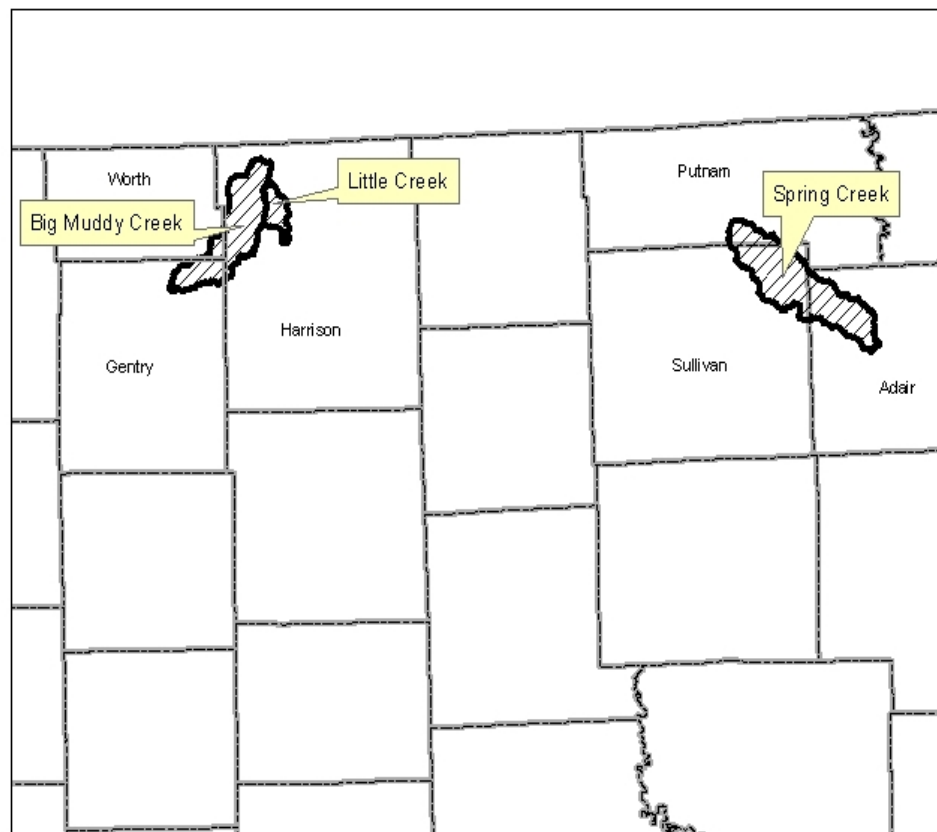
(iii) You may not possess, sell, deliver, carry, transport, ship, import, or export by any means, Topeka shiners, or parts thereof, that are taken or possessed in violation of paragraph (n)(3) of this section or in violation of the applicable State fish and wildlife laws or regulations or the Act.

(iv) You may not attempt to commit, solicit another to commit, or cause to be committed any offense defined in paragraph (n)(2)(iii) of this section.

(3) *What take is allowed in the NEP area?* Take of this species that is incidental to an otherwise legal activity, such as agriculture, forestry and wildlife management, land development, recreation, and other activities, is allowed provided that the activity is not in violation of any applicable State fish and wildlife laws or regulations.

(4) *How will the effectiveness of these reintroductions be monitored?* We will monitor reintroduction efforts to assess changes in distribution within each watershed by sampling ponds and streams where releases occur for 10 years after reintroduction. Streams will be sampled annually, and ponds will be sampled annually for the first 3 years and biennially thereafter.

(5) *Note:* Map of the NEP areas [Big Muddy Creek (Gentry, Harrison, and Worth Counties), Little Creek (Harrison County), and Spring Creek (Adair, Putnam, and Sullivan Counties)] for the Topeka shiner, follows:



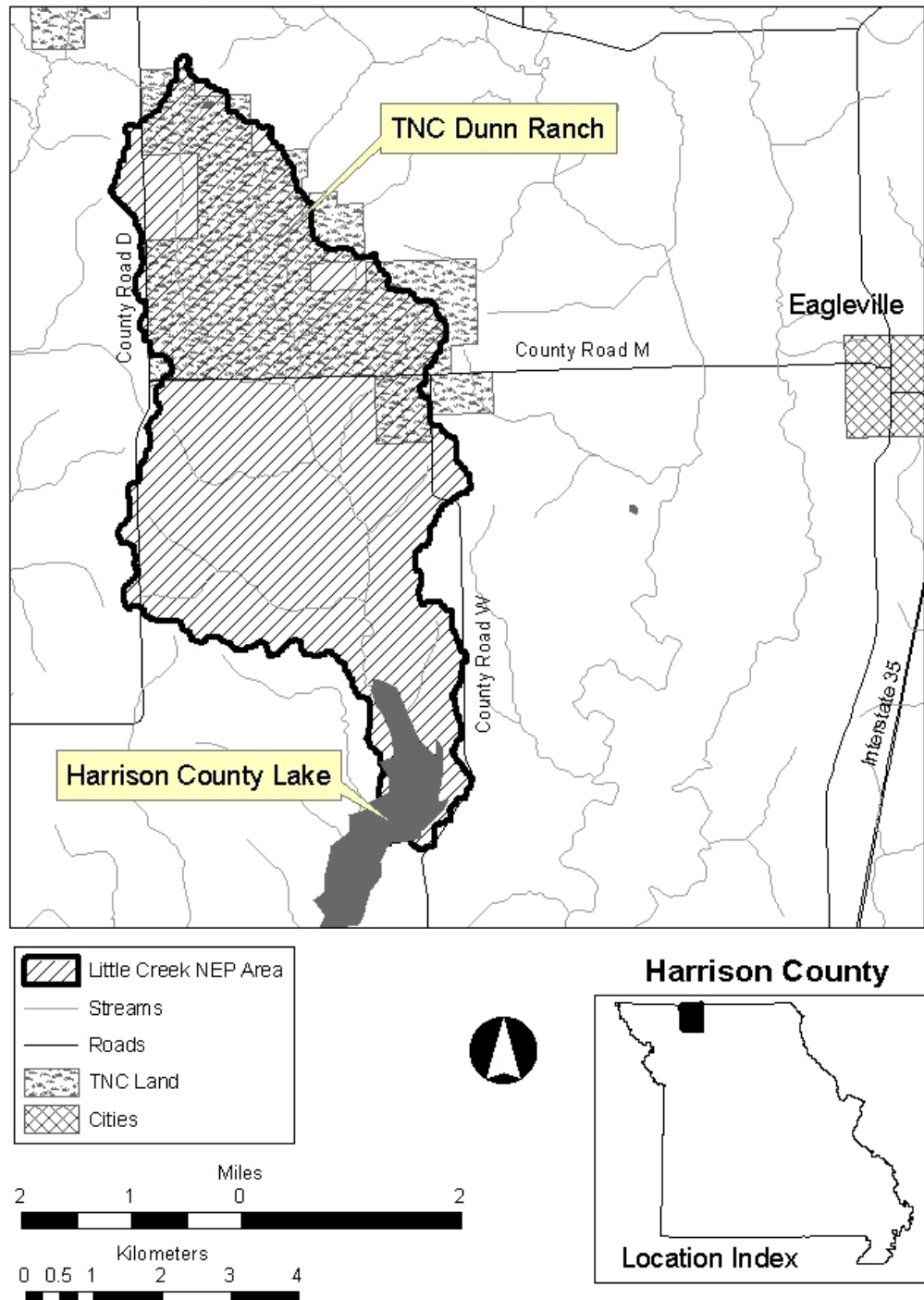
County Boundaries

Miles
20 10 0 20

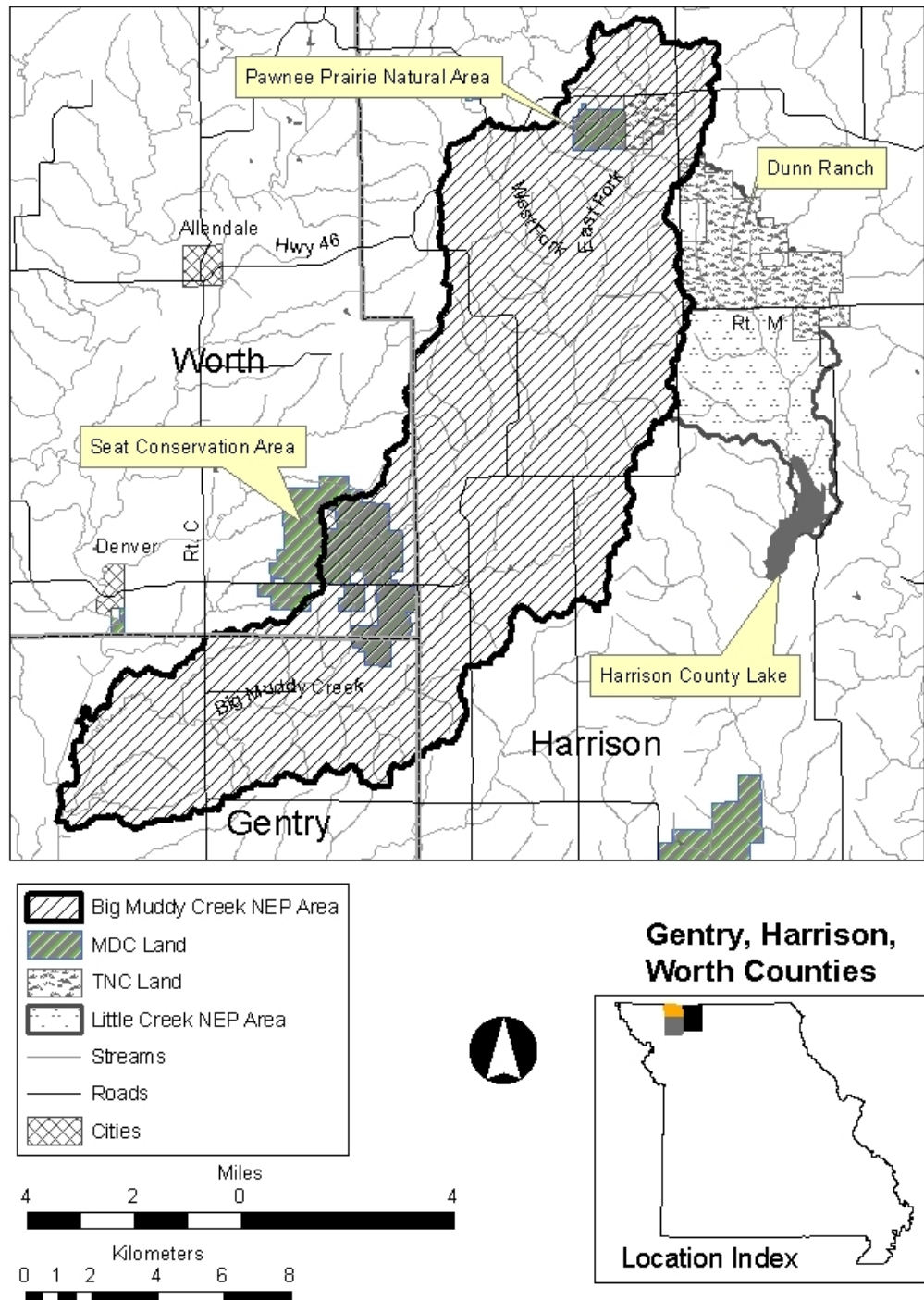
Kilometers
0 5 10 20 30 40



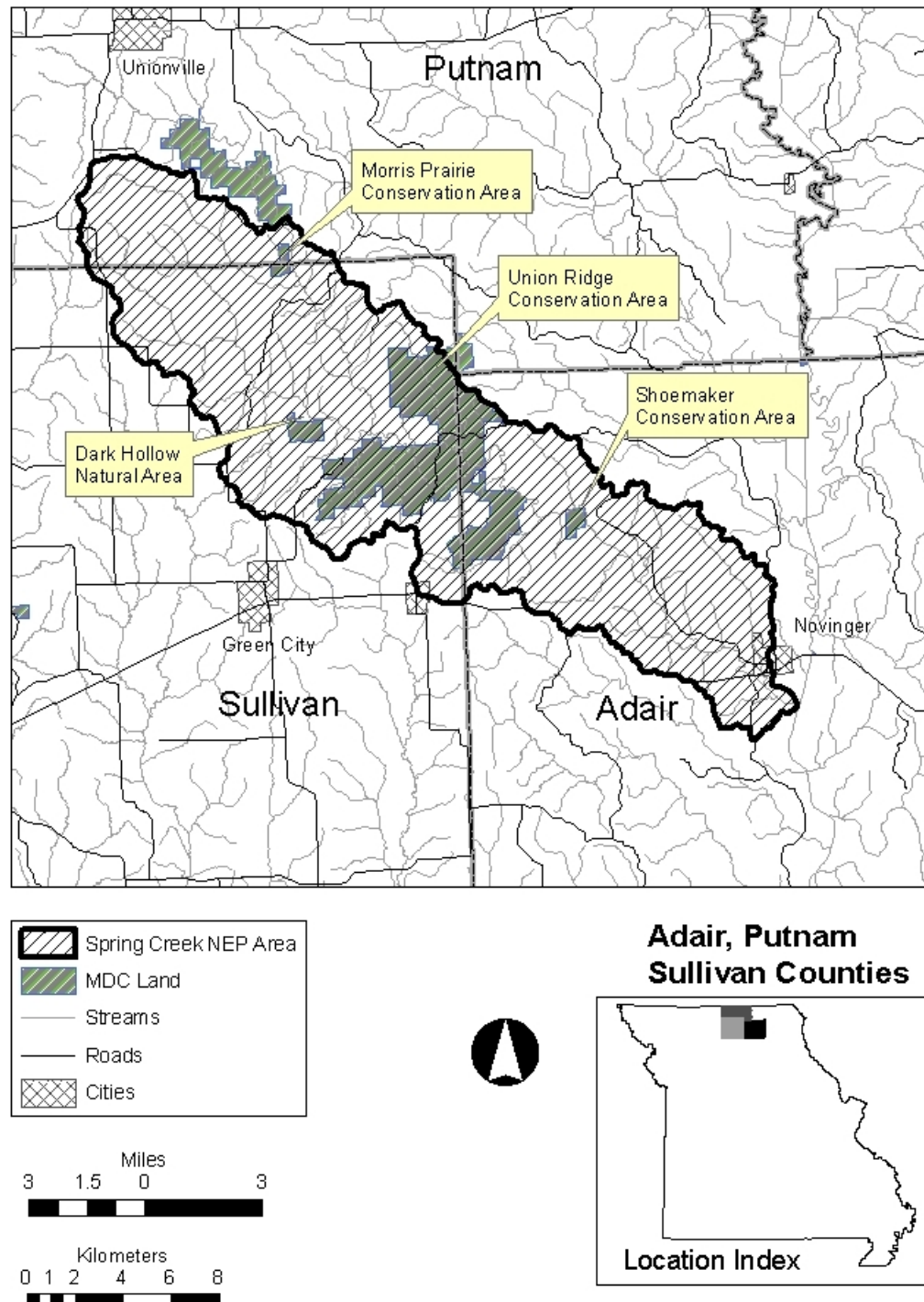
(6) *Note:* Map of the NEP area for the Topeka shiner in Little Creek watershed, Harrison County, follows:



(7) *Note:* Map of the NEP area for the Topeka shiner in Big Muddy Creek watershed, Gentry, Harrison, and Worth Counties, follows:



(8) *Note:* Map of the NEP area for the Topeka shiner in Spring Creek watershed, Adair, Putnam, and Sullivan Counties, follows:



* * * * *

Dated: July 9, 2013

Signed: Michael J. Bean

Principal Deputy Acting Assistant Secretary for Fish and Wildlife and Parks

Billing Code 4310-55-P

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